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09/918,584	07/31/2001	Jin-Shan Wang	82817HEC	1795

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EXAMINER

SHOSHO, CALLIE E

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/918,584
Filing Date: July 31, 2001
Appellant(s): WANG ET AL.

Kathleen Neuner Manne
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/27/06 appealing from the Office action mailed 8/24/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

Appellant's brief presents arguments relating to the objection of claims 11-13 under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of

a previous claim. This issue relates to petitionable subject matter under 37 CFR 1.181 and not to appealable subject matter. See MPEP § 1002 and § 1201.

Although appellants argue that the claim objection should have been made as a rejection under 35 USC 112, second paragraph and thus, be subject to appeal before the Board of Patent Appeals and Interferences, given that the claim objection was made due to the examiner's position that each of claims 11-13 fail to further limit the scope of the claim on which each depends, namely, claim 1, the claims are properly objected to under 37 CFR 1.75(c) and therefore relate to petitionable subject matter under 37 CFR 1.181 and not to appealable subject matter.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1 and 10-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 has been amended to recite “water-soluble” hyperbranched polymeric dye comprising a hyperbranched polymer having a dye chromophore and “a hydrophilic group” incorporated into the polymer base chain. It is the examiner’s position that the cited phrases fail to satisfy the written description requirement under the cited statute since there does not appear to be a written description requirement of the phrase in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163.

As support for the amendment to present claim 1, applicants note that polymers recited on page 4, lines 14-19 and page 7, lines 13-16 are water-soluble polymers. It is agreed that page 4, lines 14-19 provides support for the recitation of water-soluble hyperbranched polyamide. With respect to page 7, lines 13-16, it is noted that these polymers may be water-soluble depending on the dye and/or monomers used to prepare them.

As further support for the above amendment, applicants point to page 6, line 22-page 7, line 12, page 11, line 19-page 12, line 29, and the exemplary polymer structures on pages 8-9 of the present specification.

However, while these structures contain specific types of hydrophilic groups, these portions do not provide support for the broad recitation of “hydrophilic groups” as presently claimed. It is noted that there is no disclosure in the present specification of the phrase “hydrophilic”. Thus, support for this phrase must be found in the specific recitations of hydrophilic groups found in the present specification. The present broad recitation of

“hydrophilic group” in the present claims encompasses all types of hydrophilic groups for which there is no support in the present specification.

(10) Response to Argument

Present claim 1 currently recites “an ink jet ink composition comprising water, a humectant, and a water-soluble hyperbranched polymeric dye comprising a hyperbranched polymer having a dye chromophore and a hydrophilic group incorporated into the polymer base chain.

Appellants argue that the use of the terms “water-soluble” and “hydrophilic” in the present claims is supported by the specification as filed either explicitly, inherently, or implicitly and would be understood by one of ordinary skill in the art of chemistry to be necessary requirements for the presently claimed hyperbranched polymeric dye.

It is noted that there was no recitation in the claims as originally filed that the hyperbranched polymeric dye is “water-soluble” and no recitation in the claims as originally filed of “a hydrophilic group” incorporated into the polymer base chain.

It is further noted that there is no explicit disclosure in the specification as originally filed of the phrase “hydrophilic group incorporated into the polymer base chain”. Further, with one exception, there is no explicit disclosure in the specification as originally filed that the hyperbranched polymer dye is “water-soluble”. The exception occurs on page 4, lines 14-19 of the present specification which incorporates by reference U.S. Patent No. 6,541,600 which

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discloses water-soluble hyperbranched polymeric dye comprising hyperbranched polyamide having a dye chromophore.

Given that there is no disclosure in the present specification of the phrase “water-soluble” (with one exception) or “hydrophilic”, support for such phrases must be found in the specific recitations of hyperbranched polymeric dye and hydrophilic groups found in the present specification. However, the present broad recitation of “water-soluble” or “hydrophilic group” in the present claims encompasses all types of water-soluble hyperbranched polymeric dye and any type of hydrophilic groups for which there is no support in the present specification.

Appellants argue that the presence of hydrophilic groups in the polymeric base chain is indicated within the specification both (i) implicitly or inherently as necessary for the formation of water-soluble substance as would be recognized by one of ordinary skill in the art and (ii) expressly through the exemplary structures and exemplified inventive dyes set forth in the present specification.

With respect to (i), while it is agreed that one skilled in the art would recognize that a water-soluble substance would inherently contain hydrophilic group(s), there is no disclosure in the specification as originally filed that the hyperbranched polymeric dye is in fact water-soluble.

With respect to (ii), appellants argue that in order to be water-soluble the presently claimed hyperbranched polymeric dye must possess hydrophilic groups which would be incorporated into the base chain of one or more monomers forming the polymer and therefore would be present in the resultant polymer base chain. As examples of the reactive monomers used to form the polymers of the claimed invention, appellants point in the present specification

to page 6, line 22-page 7, line 12, the structures set forth on pages 8-9, and the hyperbranched polymeric dye set forth in the Examples at page 11, line 19-page 12, line 29.

However, it is noted that there is no explicit disclosure in the present specification that the hyperbranched polymeric dyes are water-soluble.

Further, it is significant to note that it is not the examiner's position that there is no disclosure in the specification as originally filed of hydrophilic groups.

Rather, it is the examiner's position that the while the exemplary structures and exemplified inventive dyes provide support for the recitation of specific hydrophilic groups, these few specific structures or dyes do not provide support for the broad recitation that the hyperbranched polymeric dye comprises "a hydrophilic group" incorporated into the polymer base chain.

For instance, as set forth above, applicants point to page 6, line 22-page 7, line 12 of the present specification as support for the recitation that the hyperbranched polymeric dye has hydrophilic group incorporated into the polymer base chain. This portion of the present specification discloses that the hyperbranched polymeric dye is prepared by chain polymerization of the monomer $M^1-R^7-M^2_m$ wherein R^7 is a linear or branched alkyl, carbonyl, or aromatic moiety containing dye chromophore, M^1 is a polymerization group, M^2 is a precursor of moiety M^{2*} which initiates polymerization of M^1 as result of being activated, and m is an integer of at least 1.

Given that alkyl group is not hydrophilic and that there is no disclosure that the aromatic moiety containing dye chromophore contains hydrophilic group, it is noted that this portion of the specification provides support for the recitation of a specific hydrophilic group, i.e. carbonyl.

However, this one specific hydrophilic group does not provide support for the broad recitation of “hydrophilic group” as recited in the present claims.

Similarly, applicants point to examples set forth on pages 11-12 of the present specification which disclose the use of hyperbranched polymeric dye obtained from dye 1 or dye 2 as found on pages 11-12 of the present specification.

While it is agreed that the use of these dyes provides support for the specific recitation that the hyperbranched polymeric dye comprises hyperbranched polymer having a dye chromophore and a hydrophilic group, i.e. carboxylic group (COOH), incorporated into the polymer base chain, again this one specific hydrophilic group does not provide support for the broad recitation of “hydrophilic group” as recited in the present claims.

Appellants argue that the use of the phrase “water-soluble” is supported in light of the disclosure on page 4, lines 14-19 of the present specification. It is noted that this portion of the specification incorporates by reference U.S. Patent No. 6,541,600 which discloses water-soluble hyperbranched polymeric dye comprising hyperbranched polyamide having a dye chromophore.

It is agreed that page 4, lines 14-19 of the present specification does provide support to recite water-soluble hyperbranched polymeric dye comprising hyperbranched polyamide having a dye chromophore incorporated into the base chain. However, this portion of the present specification does not provide support for the broad recitation in the present claims of water-soluble hyperbranched polymeric dye which comprises any type of polymer, i.e. other than polyamide.

Appellants also point to page 7, lines 13-16 of the present specification as examples of suitable water-soluble polymers used in forming the presently claimed hyperbranched polymeric dye.

This portion of the specification discloses that the hyperbranched polymeric dye is obtained from hyperbranched polymers including polyamide, polyester, polyether, vinylic polymer, polyimine, polyesteramide, or polyurethane. However, these polymers alone do not inherently contain hydrophilic groups in their base chain and are not necessarily water-soluble polymers. Polyurethane, for instance, is a well-known water-insoluble polymer.

Appellants note that, as described in the present specification at page 12, lines 12-13, a dye is “a colorant which is dissolved in the carrier medium”. In light of this definition, applicants argue that for ink comprising aqueous carrier medium, as does the ink of the present invention, the hyperbranched polymeric dye must be water-soluble.

However, while a dye is known to dissolve in the carrier medium, this does not mean that all aqueous inks must or can only contain water-soluble dyes. Aqueous inks can and do contain water-insoluble dyes. Page 6, lines 6-16 of the present specification discloses the dye chromophores utilized in the present specification and states that “any of the reactive dyes capable of reacting with the hyperbranched polymer to become attached thereto” are suitable. It is noted that the recited dyes are not necessarily water-soluble and that there is no explicit disclosure that the recited dyes are in fact water-soluble.

As evidence to support their position that the hyperbranched polymeric dyes of the present invention are water-soluble, appellants argue that when dye is dissolved in the carrier medium, no particulate form remains in the solution and point to the 1.132 declaration filed 4/19/04 which shows that the hyperbranched polymeric dyes of the examples of the present invention do not form particles and thus must dissolve in the aqueous carrier medium and thus, must be water-soluble.

The examiner agrees, based on the declaration, that the hyperbranched polymeric dye utilized in the examples of the present invention are water-soluble. However, while this provides support for the recitation that the specific hyperbranched polymeric dye utilized in the examples of the present specification are water-soluble, this does not provide support for the broad recitation of the present claims of water-soluble hyperbranched polymeric dye which includes all hyperbranched polymeric dyes not just those found in the examples.

In light of the above, it is the examiner's position that while there is support in the specification as originally filed to recite specific water-soluble hyperbranched polymeric dye and specific hydrophilic groups that are incorporated into the polymer base chain of the polymer of the hyperbranched polymeric dye, there is no support in the specification as originally filed to broadly recite "water-soluble" hyperbranched polymeric dye comprising a hyperbranched polymer having a dye chromophore and "a hydrophilic group" incorporated into the base chain which encompasses all water-soluble hyperbranched polymeric dyes containing any type of hydrophilic group for which there is no support in the recitation as originally filed.

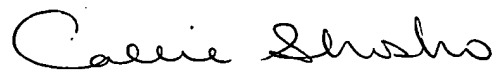
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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.


Respectfully submitted,



Callie Shosho
Primary Examiner
AU 1714

CS
4/13/06

Conferees:


Vasu Jagannathan
Randy Gulakowski